

Page 19, before line 13, insert the heading -BRIEF DESCRIPTION OF

Q3 THE DRAWINGS-; and

Page 19, between lines 36 and 37, insert the heading -DESCRIPTION OF

Q4 PREFERRED EMBODIMENTS--.

IN THE ABSTRACT:

Please insert the Abstract of the Disclosure as submitted in the appended sheet.

IN THE CLAIMS:

Please cancel claim 7 and 14, without prejudice, add new claims 15-20, and amend claims 1-6 and 8, 13 as follows:

1 1 (Amended). Method of processing X streams of information symbols to be
2 transmitted on Y communication channels, X and Y being positive integers, [in which] wherein
3 the Y communication channels simultaneously occupy a transmission resource organized as
4 successive frames, [in which] wherein the successive frames include compressed-mode frames
5 each having at least one inactive period during which no symbol is transmitted, [in which]
6 wherein the information symbols of each stream i ($1 \leq i \leq X$) are transmitted in [the course of]
7 successive transmission time intervals each comprising F_i consecutive frames, F_i being a
8 positive integer, and [in which] wherein, for each transmission time interval relating to a stream
9 i ($1 \leq i \leq X$), integers E_i , ΔN_i^{TTI} and ΔN_i^{CM} are defined such that $E_i > 0$, $\Delta N_i^{\text{CM}} < 0$ if [the] said
10 transmission time interval comprises at least one compressed mode frame and $\Delta N_i^{\text{CM}} = 0$ if [the]
11 said transmission time interval does not comprise any compressed-mode frame, the method

12 comprising the following steps for each transmission time interval relating to a stream i ($1 \leq i \leq$
13 X):

14 forming a first sequence $[(c_i)]$ of E_i coded symbols [coded on the basis of] from
15 information symbols of [the] said stream pertaining to [the] said transmission time interval;

16 forming a second sequence of symbols $[(h_i)]$ including $E_i + \Delta N_i^{TT} + \Delta N_i^{CM}$ symbols
17 extracted from the first sequence and ΔN_i^{CM} marked symbols;

18 forming a third sequence of symbols $[(q_i)]$ by a permutation of the symbols of the
19 second sequence; distributing the symbols of the third sequence into F_i segments of consecutive
20 symbols, the F_i segments being respectively assigned to the frames of [the] said transmission
21 time interval; and

22 for each frame of said transmission time interval, forming a fourth sequence $[(f_i)]$ of
23 symbols extracted from the segment assigned to said frame, [the] said permutation and the
24 placing of the marked symbols in the second sequence when [the] said transmission time
25 interval comprises at least one compressed-mode frame being such that each marked symbol
26 belongs, in the third sequence, to a segment assigned to a compressed-mode frame, and the
27 following steps for each frame:

28 forming a fifth sequence of symbols $[(w)]$ including the symbols of the fourth sequence
29 output for [the] said frame in relation to each stream;

30 distributing the symbols of the fifth sequence into Y segments of symbols, the y
31 segments being respectively assigned to the Y communication channels;

32 for each communication channel, forming a sixth sequence $[(u_i)]$ of symbols extracted
33 from the segment assigned to [the] said communication channel;

34 for each communication channel, forming a seventh sequence of symbols $[(v_j)]$ by a
35 permutation of the symbols of the sixth sequence; and
36 transmitting on each communication channel, in time slots of [the] said frame, symbols
37 extracted from the seventh sequence, each of said [the] marked symbols being deleted before
38 transmission on each communication channel when [the] said frame is in compressed mode, so
39 as to [husband the] provide said inactive period [in the course of] within the frame.

1 2. (Amended) Method according to Claim 1, [in which the] wherein said marked
2 symbols are kept until the seventh sequences $[(v_j)]$ when [the] said frame is in compressed
3 mode, without being extracted from the seventh sequences for transmission.

1 3. (Amended) Method according to Claim 1 [or 2, in which] wherein additional
2 marked symbols are inserted into the second or the fifth sequence $[(h_i, w)]$, these symbols being
3 kept until the seventh sequences $[(v_j)]$ so as to be transmitted with zero transmission power.

1 4. (Amended) Device for processing X streams of information symbols to be
2 transmitted on Y communication channels, X and Y being positive integers, the Y
3 communication channels simultaneously occupying a transmission resource organized as
4 successive frames, the successive frames including compressed-mode frames each having at
5 least one inactive period during which no symbol is transmitted, the information symbols of
6 each stream i ($1 \leq i \leq X$) being transmitted in [the course of] successive transmission time
7 intervals each comprising F_i consecutive frames, F_i being a positive integer, integers E_i , ΔN_i^{TTI}

8 and ΔN_i^{cm} being defined for each transmission time interval relating to a stream i ($1 \leq i \leq X$),
 9 with $E_i > 0$, $\Delta N_i^{cm} < 0$ if [the] said transmission time interval comprises at least one
 10 compressed-mode frame and $\Delta N_i^{cm} = 0$ if [the] said transmission time interval does not
 11 comprise any compressed-mode frame, the device comprising:
 12 means [(21,-23_i)] for forming a first sequence [(c_i)] of E_i coded symbols [on the basis
 13 of] from information symbols of each stream i ($1 \leq i \leq X$) pertaining to a transmission time
 14 interval;
 15 means [(24_i,-25_i)] for forming, for each transmission time interval relating to a
 16 stream ($1 \leq i \leq X$), a second sequence of symbols [(h_i)] including $E_i + \Delta N_i^{TM} + \Delta N_i^{CM}$ symbols
 17 extracted from the first sequence and ΔN_i^{CM} marked symbols;
 18 means [(26_i)] for forming a third sequence of symbols [(q_i)] by a first permutation of the
 19 symbols of each second sequence;
 20 means [(27_i)] for distributing the symbols of each third sequence, [which is] formed for
 21 a transmission time interval relating to a stream i ($1 \leq i \leq X$), into F_i segments of consecutive
 22 symbols respectively assigned to the frames of said transmission time interval, and for forming
 23 F_i fourth sequences [(f_i)] of symbols respectively extracted from the segments assigned to [the]
 24 said frames;
 25 means [(28-29)] for forming, for each frame, a fifth sequence of symbols [(w)]
 26 including the symbols of the fourth sequence output for [the] said frame in relation to each
 27 stream i ($1 \leq i \leq X$);
 28 means [(30)] for distributing the symbols of each fifth sequence into Y segments of
 29 symbols respectively assigned to the Y communication channels;

30 means [(31_j)] for forming a sixth sequence [(u_j)] of symbols extracted from the segment
31 assigned to each communication channel; and

32 means [(32_j)] for forming a seventh sequence of symbols [(v_j)] by a second permutation
33 of the symbols of each sixth sequence, and for transmitting, in time slots of each frame on each
34 communication channel, symbols extracted from the seventh sequence, [in which] wherein the
35 first permutation and the placing of the marked symbols in the second sequence, [which is]
36 formed for a transmission time interval relating to a stream when [the] said transmission time
37 interval comprises at least one compressed-mode frame, are such that each marked symbol
38 belongs, in the third sequence [which is] formed for [the] said transmission time interval, to a
39 segment assigned to a compressed-mode frame, each of said marked symbols being deleted
40 before transmission on each communication channel so as to [husband the] provide said
41 inactive period [in the course of] within the frame.

1 5. (Amended) Device according to Claim 4, [in which] wherein the means [(26_i –
2 32_j)] for forming the third, fourth, fifth, sixth and seventh sequences of symbols [(q_i, f_i, w, u_j,
3 v_j) are configured so as] are arranged to keep [the\ said marked symbols until the seventh
4 sequences [(v_j) which are] formed for each compressed-mode frame, [the] whereby said marked
5 symbols are not [being] extracted from the seventh sequences for transmission.

1 6. (Amended) Device according to Claim 4 [or 5], comprising means [(25_i, 29)]
2 for inserting, into the second or fifth sequences [(h_i, w)], additional marked symbols which are
3 kept until the seventh sequences [(v_j)] so as to be transmitted with zero transmission power.

8. (Amended) Method of processing Y digital streams $[(r'_j)]$ obtained [on the basis of a] from a received signal (received) and comprising estimates of information symbols respectively transmitted along Y communication channels simultaneously occupying a transmission resource organized as successive frames, and pertaining to X transport channels, X and Y being positive integers, [in which] wherein the successive frames include compressed mode frames each having at least one inactive period during which no symbol is transmitted, and [in which] wherein the estimates of information symbols pertaining to each transport channel i ($1 \leq i \leq X$) are received in [the course of] successive transmission time intervals each comprising F_i consecutive frames, F_i being a positive integer, the method comprising the following steps for each frame:

forming, in relation to each communication channel j ($1 \leq j \leq Y$), a first sequence $[(v'_j)]$ composed of estimates extracted from the time slots of [the] said frame and, when [the] said frame is in compressed mode, of marked estimates placed at positions corresponding to the inactive period of [the] said frame;

for each communication channel, forming a second sequence of estimates $[(u'_j)]$ by a permutation of the estimates of the first sequence;

forming a third sequence of estimates $[(s')]$ including estimates of the second sequence [which is] output for each communication channel; and

distributing the estimates of the third sequence into X segments $[(f_i)]$ of consecutive estimates, the X segments being respectively assigned to the X transport channels, and the following steps for each transmission time interval relating to a transport channel;

22 forming a fourth sequence $[(q'_i)]$ by concatenating the respective segments $[(f_i)]$
23 assigned to [the] said transport channel for the frames of [the] said transmission time interval;
24 permuting the estimates of the fourth sequence and forming a fifth sequence $[(g'_i)]$ of
25 estimates extracted from the [fourth] permuted fourth sequence $[(h'_i)]$;
26 ignoring each marked estimate of the fifth sequence, and forming a sixth sequence of
27 symbols $[(c'_i)]$ on the basis of the other estimates of the fifth sequence; and
28 decoding the sixth sequence of estimates and outputting the decoded estimates $[(a'_i)]$.

1 9. (Amended) Method according to Claim 8, [in which] wherein the step of
2 forming [of] the third sequence $[(s'_i)]$ for at least one frame comprises [a] concatenating [of] the
3 second sequences $[(u'_i)]$ which are] formed for the Y communication channels and [a] deleting
4 [of] at least one estimate having a determined position in the concatenated sequence $[(w')]$.

1 10. (Amended) Method according to Claim 8, [in which] wherein the step of
2 [formation of] the fifth sequence $[(g'_i)]$ for at least one transmission time interval relating to a
3 transport channel comprises [a] deleting [of] at least one estimate having a determined position
4 in the [fourth] permuted fourth sequence $[(h'_i)]$.

1 11. (Amended). Device for processing Y digital streams $[(r'_i)]$ obtained [on the basis
2 of a] from a received signal [received] and comprising estimates of information symbols
3 respectively transmitted along Y communication channels simultaneously occupying a
4 transmission resource organized as successive frames, and pertaining to X transport channels, X
5 and Y being positive integers, the successive frames including compressed-mode frames each

6 having at least one inactive period during which no symbol is transmitted, and the estimates of
7 information symbols pertaining to each transport channel i ($1 \leq i \leq X$) being received in [the
8 course of] successive transmission time intervals each comprising F_i consecutive frames, F_i
9 being a positive integer, the device comprising:

10 means [(52)] for forming, for each frame in relation to each communication channel, a
11 first sequence $[(v'_i)]$ composed of estimates extracted from the time slots of [the] said frame
12 and, when [the] said frame is in compressed mode, marked estimates placed at positions
13 corresponding to the inactive period of [the] said frame;

14 means [(51)] for forming, for each frame in relation to each communication channel, a
15 second sequence of estimates $[(u'_i)]$ by permutation of the estimates of the first sequence;

16 means [(50, 49)] for forming, for each frame, a third sequence of estimates $[(s'_i)]$
17 including estimates of the second sequence [which is] output for each communication channel;

18 means [(48)] for distributing the estimates of the third sequence formed for each frame
19 into X segments $[(f'_i)]$ of consecutive estimates, the X segments being respectively assigned to
20 the X transport channels;

21 means [(47)] for forming a fourth sequence $[(q'_i)]$ for each transmission time interval
22 relating to a transport channel, by concatenating the respective segments $[(f'_i)]$ assigned to [the]
23 said transport channel for the frames of [the] said transmission time interval;

24 means [(46, 45)] for permuting the estimates of the fourth sequence [which is] formed
25 for each transmission time interval relating to a transport channel, and for forming a fifth
26 sequence $[(g'_i)]$ of estimates extracted from the fourth permuted sequence $[(h'_i)]$;

27 means [(44_i)] for deleting each marked estimate of the fifth sequence [which is] formed
28 for each transmission time interval relating to a transport channel, and for forming a sixth
29 sequence of symbols [(c'_i)] on the basis of the other estimates of the fifth sequence; and
30 means [(43_i, 41_i)] for decoding the sixth sequence of estimates [which is] formed for
31 each transmission time interval relating to a transport channel, [so as] to output the decoded
32 estimates [(a'_i)].

1 12 (Amended) Device according to Claim 11, [in which] wherein the means for
2 forming the third sequence of estimates [(s'_i)] comprise means [(50)] for concatenating the
3 second sequences [(u'_i)] which are] formed for the Y communication channels and means [(49)]
4 for deleting at least one estimate having a determined position in the concatenated sequence
5 [(w'_i)].

1 13. (Amended) Device according to Claim 11, [in which] wherein the means for
2 forming the fifth sequence [(g'_i)] comprise means [(45_i)] for deleting at least one estimate
3 having a determined position in the [fourth] permuted fourth sequence [(h'_i)].

1 --15. (New) Radiocommunication base station comprising source means for
2 providing X streams of information symbols to be transmitted on Y communication channels
3 simultaneously occupying a transmission resource organized as successive frames, X and Y
4 being positive integers, processing means for forming sequences of output symbols from said X
5 streams of information symbols, and transmission means for transmitting said sequences of
6 output symbols on the Y communication channels, wherein the successive frames include

7 compressed-mode frames each having at least one inactive period during which no symbol is
8 transmitted, the information symbols of each stream i ($1 \leq i \leq X$) being transmitted in
9 successive transmission time intervals each comprising F_i consecutive frames, F_i being a
10 positive integer, wherein integers E_i , ΔN_i^{TTI} and ΔN_i^{cm} are defined for each transmission time
11 interval relating to a stream i ($1 \leq i \leq X$), with $E_i > 0$, $\Delta N_i^{\text{cm}} < 0$ if said transmission time
12 interval comprises at least one compressed-mode frame and $\Delta N_i^{\text{cm}} = 0$ if said transmission time
13 interval does not comprise any compressed-mode frame, wherein the processing means
14 comprise:
15 means for forming a first sequence of E_i coded symbols from information symbols of
16 each stream i ($1 \leq i \leq X$) pertaining to a transmission time interval;
17 means for forming, for each transmission time interval relating to a stream i ($1 \leq i \leq X$),
18 a second sequence of symbols including $E_i + \Delta N_i^{\text{TTI}} + \Delta N_i^{\text{cm}}$ symbols extracted from the first
19 sequence and $-\Delta N_i^{\text{cm}}$ marked symbols;
20 means for forming a third sequence of symbols by a first permutation of the symbols of
21 each second sequence;
22 means for distributing the symbols of each third sequence, formed for a transmission
23 time interval relating to a stream i ($1 \leq i \leq X$), into F_i segments of consecutive symbols
24 respectively assigned to the frames of said transmission time interval, and for forming F_i fourth
25 sequences of symbols respectively extracted from the segments assigned to said frames;
26 means for forming, for each frame, a fifth sequence of symbols including the symbols of
27 the fourth sequence output for said frame in relation to each stream i ($1 \leq i \leq X$);

28 means for distributing the symbols of each fifth sequence into Y segments of symbols
29 respectively assigned to the Y communication channels;
30 means for forming a sixth sequence of symbols extracted from the segment assigned to
31 each communication channel; and
32 means for forming one of said sequences of output symbols by a second permutation of
33 the symbols of each sixth sequence,
34 wherein the first permutation and the placing of the marked symbols in the second sequence,
35 formed for a transmission time interval relating to a stream when said transmission time
36 interval comprises at least one compressed-mode frame, are such that each marked symbol
37 belongs, in the third sequence formed for said transmission time interval, to a segment assigned
38 to a compressed-mode frame, each of said marked symbols being deleted before transmission
39 on each communication channel so as to provide said inactive period within the frame.

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16. (New) Base station according to Claim 15, wherein the means for forming the
2 third, fourth, fifth and sixth sequences of symbols and the sequences of output symbols are
3 arranged to keep said marked symbols until the sequences of output symbols formed for each
4 compressed-mode frame, whereby said marked symbols are not extracted from the sequences of
5 output symbol for transmission.

17. (New) Base station according to Claim 15, wherein the processing means
2 further comprise means for inserting, into the second or fifth sequences, additional marked
3 symbols which are kept until the sequences of output symbols so as to be transmitted with zero
4 transmission power.

1 18. (New) Radiocommunication terminal, comprising reception means to provide Y
2 digital streams from a received signal and processing means for processing said Y digital
3 streams to feed X transport channels, X and Y being positive integers, said Y digital streams
4 including estimates of information symbols pertaining to the X transport channels and
5 respectively transmitted along Y communication channels simultaneously occupying a
6 transmission resource organized as successive frames, the successive frames including
7 compressed-mode frames each having at least one inactive period during which no symbol is
8 transmitted, the estimates of information symbols pertaining to each transport channel i ($1 \leq i \leq$
9 X) being received in successive transmission time intervals each comprising F_i consecutive
10 frames, F_i being a positive integer, wherein the processing means comprise:

11 means for forming, for each frame in relation to each communication channel, a first
12 sequence composed of estimates extracted from the time slots of said frame and, when said
13 frame is in compressed mode, marked estimates placed at positions corresponding to the
14 inactive period of said frame;

15 means for forming, for each frame in relation to each communication channel, a second
16 sequence of estimates by permutation of the estimates of the first sequence;

17 means for forming, for each frame, a third sequence of estimates including estimates of
18 the second sequence output for each communication channel;

19 means for distributing the estimates of the third sequence formed for each frame into X
20 segments of consecutive estimates, the x segments being respectively assigned to the X
21 transport channels;

22 means for forming a fourth sequence for each transmission time interval relating to a
23 transport channel, by concatenating the respective segments assigned to said transport channel
24 for the frames of said transmission time interval;

25 means for permuting the estimates of the fourth sequence formed for each transmission
26 time interval relating to a transport channel, and for forming a fifth sequence of estimates
27 extracted from the fourth permuted sequence;

28 means for deleting each marked estimate of the fifth sequence formed for each
29 transmission time interval relating to a transport channel, and for forming a sixth sequence of
30 symbols on the basis of the other estimates of the fifth sequence; and means for decoding the
31 sixth sequence of estimates formed for each transmission time interval relating to a transport
32 channel, to output decoded estimates for the transport channel.

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1 19. (New) Terminal according to Claim 18, wherein the means for forming the third
2 sequence of estimates comprise means for concatenating the second sequences formed for the Y
3 communication channels and means for deleting at least one estimate having a determined
4 position in the concatenated sequence.

1 20. (New) Terminal according to Claim 18, wherein the means for forming the fifth
2 sequence comprise means for deleting at least one estimate having a determined position in the
3 permuted fourth sequence. —
